

FISHERIES MANAGEMENT AND EVALUATION PLAN

4 (d) Rule Fisheries Management and Evaluation Plan (FMEP)

for

Snake River Steelhead (*Oncorhynchus mykiss*) ESU

State of Idaho

Resident Fish Species Sport Fishing Program

Prepared by

Idaho Department of Fish and Game

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Title. Fishery Management and Evaluation Plan for the State of Idaho Resident Fish Species Sport Fishing Program
Submitted to the National Marine Fisheries Service pursuant to Section 4(d) of the Endangered Species Act for authorization of the take of threatened Snake River steelhead (*Oncorhynchus mykiss*).

Responsible Management Agency.

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The Idaho Department of Fish and Game (IDFG or Department) previously submitted two versions of Fisheries Management and Evaluation Plans (FMEPs) to the National Marine Fisheries Service (NMFS). Those two FMEPs, dated October 2, 1997 and June 22, 1998, addressed impacts to juvenile and adult steelhead (*Oncorhynchus mykiss*), whereas this plan addresses impacts almost exclusively to juvenile steelhead because there is little if any impact to adult steelhead from the resident (non-anadromous) program. This FMEP includes previously submitted information with updated information as appropriate.

SECTION 1. FISHERIES MANAGEMENT

1.1) General objectives of the FMEP.

Objective-The objective of this FMEP is to achieve compliance with the NMFS 4(d) rule relative to take of listed steelhead resulting from sport fisheries directed at resident (non-anadromous) fish species in the State of Idaho. In accordance with the Endangered Species Act (ESA), these fisheries must be conducted in a manner that will not jeopardize the continued survival and recovery of ESA-listed Snake River steelhead. In addition, this plan must also allow IDFG to meet its own mandates to protect steelhead (and other resources) while providing sufficient sport fishing opportunities. This FMEP focuses on impacts to juvenile steelhead because the impact of resident fisheries is limited almost exclusively to juvenile steelhead; few, if any, adult steelhead are caught in these fisheries. The two primary areas of concern relative to resident fisheries are the potential mortality resulting from the fisheries themselves and the potential impacts of the resident fish-stocking program. Stocked fish may interact ecologically with juvenile steelhead and may "induce" angling that could affect listed steelhead. Therefore, the IDFG manages potential impacts to listed steelhead through management practices that include effective regulation of sport fisheries and the ecologically responsible use of hatchery fish.

IDFG Purpose and Role-The Idaho Department of Fish and Game is statutorily charged with management and protection of the fish and wildlife resources of the state. Title 36 Idaho Code mandates the Idaho Fish and Game Commission (IFGC or Commission) to "preserve, protect, and perpetuate such wildlife and provide for the citizens of this state and as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping". The IDFG provides the Commission with the technical information necessary for decision-making. The Department manages the fish and wildlife of the state based on Commission direction.

IDFG regulates and manages the following sport fisheries in the state:

- Resident Fish Species Sport Fishing - General Fishing Regulations;
- Anadromous Salmon Sport Fishing - Anadromous Salmon Fishing Regulations;
- Steelhead Sport Fishing, Spring and Fall Seasons - Steelhead Fishing Regulations.

Idaho was historically the primary nursery grounds for spring/summer chinook salmon (*O. tshawytscha*) and summer steelhead in the entire Columbia River system. It has been estimated that Idaho historically produced 45-55% of the total Columbia River run of these races of fish (Bjornn 1960; Mallet 1974).

Protection of wild native fish species is, and has been, a priority for the State of Idaho for several decades. This commitment is reflected in policies and priorities formalized in IDFG's current and earlier Fisheries Management Plans (IDFG 1975, 1996, and 2001 *In Draft*). The following policies, as they appear in the most recent Fisheries Management Plan (IDFG 2001 *In Draft*), are pertinent:

3. Wild native populations of resident and anadromous fish species will receive priority consideration in management decisions.
4. Management decisions will emphasize maintenance of self-sustaining populations of fish.
7. Hatchery-reared fish will be stocked as appropriate to preserve, establish, or reestablish depleted fish populations and to provide angling opportunity to the general public.
8. The Department will strive to maintain the genetic integrity of wild native stocks of resident fish and naturally-managed anadromous fish when using hatchery supplementation.

NMFS Role- The National Marine Fisheries Service is the federal agency in charge of administering the ESA for Idaho's listed anadromous species. In accordance with the ESA and NMFS direction, this FMEP is being submitted pursuant to Section 4(d) of the ESA to address the incidental take of listed Snake River steelhead that may occur as a result of sport fisheries for resident species. Incidental take of steelhead as a

result of other fisheries will be addressed through other ESA avenues. Anadromous salmon fisheries (chinook salmon) will be addressed through Section 10 of the ESA and adult steelhead fisheries will be addressed through a separate FMEP under the 4(d) rule.

1.1.1) List of the “Performance Indicators” for the management objectives.

The "success" of resident sport fisheries programs is gauged primarily through creel and angler surveys. Surveys are conducted based on specific management needs to determine if management objectives, for example catch rates and angler satisfaction, are being met.

Surveys are not conducted specifically to determine impacts to listed steelhead because the existing evidence provides no basis to conclude that sport fishing is, or ever was, a limiting factor for Idaho's juvenile steelhead populations. Fishing regulations have become increasingly restrictive beginning mainly in the 1970s, substantially reducing whatever impacts fishing had on steelhead. Current creel surveys and field contacts provide enough information to support our position that sport fisheries do not limit the survival or recovery of Idaho's steelhead populations.

Stocking practices have undergone substantial changes in the last 10 years in response to a desire to improve the efficiency of our hatchery programs and reduce impacts to ever-declining Snake River anadromous stocks, which were listed under the ESA in the early 1990s.

All four key steelhead drainages managed as genetic refugia are restricted to catch and release fishing.

1.1.2) Description of the relationship and consistency of harvest management with artificial propagation programs.

RESIDENT FISH HATCHERY PROGRAM DESCRIPTION

Only artificial propagation programs conducted to provide sport fishing opportunities for resident species, rainbow trout in this case, are addressed in this FMEP. Hatchery programs operated to provide steelhead (adult) fisheries will be addressed in a separate FMEP. Take of listed sockeye salmon (*O. nerka*) and chinook salmon as a result of the resident fish stocking program has been authorized by NMFS via a Section 10 permit (Permit #908, anticipated to be "renewed" as #1188) since the early 1990s when these species were listed. An abbreviated description of the stocking program is provided herein as it appears in permits, permit applications, annual reports, and other documents produced relative to that permit. The stocking program as now authorized and implemented will likely have no more impacts to listed steelhead than it does on sockeye and chinook and is unlikely to jeopardize listed steelhead.

Hatchery rainbow trout are stocked to provide angling opportunities. Some of this stocking occurs where listed species exist. The stocking program is largely driven by two major objectives; to provide satisfactory sport fishing with efficient use of hatchery fish and to reduce potential impacts of these programs to native species, especially ESA-listed species and species of special concern. These objectives are formalized in the IDFG Fisheries Management Plan, 2001-2006 (IDFG 2001 *In Draft*, pp. 28-29) as follows:

"No increase in numbers of catchable size trout is proposed in this planning period. Fishing opportunity can be increased and improved by increasing efficiency of put-and-take trout programs through: (1) concentrating releases of catchables in easily accessible, heavily fished waters; (2) timing releases to coincide with peaks in fishing pressure; (3) publicizing the location of catchable trout streams; (4) producing a consistently high-quality product at hatcheries."

Also:

"The Department has successfully developed the technology to produce sterile rainbow trout in its hatchery program. The primary use of these fish is for waters containing self-reproducing wild/native stocks where fish management programs allow increased harvest rates of hatchery fish. During the next six years, the Department will also recommend the use of sterile trout in private ponds within drainages where genetic introgression with sensitive species may occur."

IDFG has made several changes to meet management objectives including substantial reduction of the number of fish stocked in anadromous streams, a shift in emphasis from stream stocking to stocking of ponds, lakes and reservoirs, changes in location and timing of stocking, and a constant effort to rear healthy fish. Fishing ponds have been constructed in the Salmon and Clearwater Regions in the past few years to improve "return-to-the-creel"; these ponds now receive fish that would have previously been stocked into local rivers and streams.

The stocking plan that was proposed for the year 2000, with the exception that stocking plans for Redfish Lake remain unresolved, is representative of the program currently acceptable to NMFS relative to sockeye and chinook impacts and our best projection of future plans at this time (Table 1, note that this is Table 2 as it appears in 1999 annual report for Permit #908, Resident Fish Stocking). The 2000 stocking proposal represents the evolution of the program since the listing of sockeye in 1991. We have decreased the number of rainbow trout proposed for stocking from about 248,000 in 1993 to about 188,000 in 2000. Notably, our proposals continue to include about 10,000 rainbow trout for Redfish Lake, even though Redfish Lake has not been stocked since the listing of Snake River sockeye. In addition, stocking in salmon "nursery areas" does not occur until after June 15 to reduce potential predation by hatchery rainbow trout.

Monitoring conducted as a condition of the stocking and sport fishing permits (Permits #908 and #1233) demonstrates that these programs are unlikely to jeopardize listed species. Data collected in the upper Salmon River relative to overwinter survival of rainbow trout prompted NMFS to drop monitoring as a condition of Permit #908 beginning in 1996.

Upper Salmon River- The upper Salmon River is defined as the Salmon River above the mouth of the Middle Fork Salmon River. However, stocking in the "upper Salmon" occurs only in the 83 km stretch from the Challis area (near Slate Creek) upstream to Hell Roaring Creek, some 160 km above the mouth of the Middle Fork. Hatchery steelhead smolts for mitigation programs are also released in this area. We also stock the lower four miles of Valley Creek, a tributary to the Salmon River near Stanley and several area lakes and ponds (Table 1). No stocking of rainbow trout occurs in upper

Valley Creek where we are continuing attempting to restore westslope cutthroat trout (*O. clarkii*).

We generally stock about 40,000 catchable trout (20-25 cm) in the mainstem Salmon River and in Valley Creek combined, annually. The upper Salmon River is arguably the area of the most concern from an ESA standpoint, although steelhead in this area have been managed as a hatchery influenced stock for many years; extensive stocking of non-endemic steelhead occurred in an effort to maintain natural production and harvest opportunities following the dramatic decline of native stocks during the 1970s. Natural production in the upper Salmon River is very limited and occurs in tributaries, not in the mainstem where rainbow trout stocking occurs.

Stocking of rainbow trout into ponds and lakes in the Stanley Basin is unlikely to have any effect on naturally produced (listed) steelhead because there are no steelhead present in these waters. We stock about 25,000 to 30,000 catchable rainbow trout to area lakes and ponds each year.

Lower Salmon and lower Clearwater rivers- The other major stocking activity relative to this FMEP is the annual stocking of 50,000 subcatchables (\approx 15-20 cm total length) each to the lower Clearwater and lower Salmon rivers (Table 1). All stocking occurs in mainstem locations in October. In the lower Salmon, stocking occurs from the mouth of the Salmon River to Whitebird Creek, a distance of about 86 km. In the Clearwater, stocking may occur from the mouth of the Clearwater to the mouth of the South Fork Clearwater River, a distance of about 120 km.

TABLE 1. Proposed Stocking of Hatchery Rainbow Trout in Areas of the Salmon and Clearwater River Drainages Accessible to Anadromous Fish Under the Idaho Department of Fish and Game's Resident Fish Stocking Program, 2000.

<u>LOCATION</u>	<u>NUMBER</u>	<u>SIZE</u>	<u>POUNDS</u>	<u>STRAIN</u>	<u>MONTH</u>	<u>MARK</u>
TL in cm						
<u>SALMON RIVER (lower):</u>						
Mouth to Whitebird Cr.* (LSRCP)	25,000	12	1,250	K-1(Kamloops)	October	LV
Mouth to Whitebird Cr. (NMFS#908)	25,000	12	1,250	K-1(Kamloops)	October	RV
LITTLE SALMON RIVER	1,000	<=25	300	R-1	June, July	none
<u>SALMON RIVER (upper):</u>						
Near Challis	0	7	0		June-Sept.	none
Challis to Mill Creek	0	<=25	0		June-Sept.	none
Yankee Fork R.S. to Yankee Fk.	2,000	<=25	700	R-1	June-Sept.	AD
Yankee Fork to Valley Cr.	17,500	<=25	5,833	R-1	June-Sept.	AD
Valley Creek to Redfish Lake Cr.	10,500	<=25	3,750	R-1	June-Sept.	AD
Redfish Lake Cr. to Hell Roaring Cr.	7,500	<=25	2,500	R-1	June-Sept.	AD
VALLEY CREEK	4,000	<=25	1,428	R-1	June-Sept.	AD
YANKEE FORK DREDGE PONDS	4,000	<=25	1,300	R-1	May-Aug.	none
SQUAW CR. POND	800	<=25	250	R-1	May-Aug.	none
STANLEY LAKE	14,000	<=25	4,700	R-1	May-Aug.	none
PERKINS LAKE	2,000	<=25	714	R-9	May-Aug.	none
LITTLE REDFISH LAKE	0	<=25	0		May-Aug.	none
ALTURAS LAKE	12,000	<=25	4,140	R-9	June-Sept.	none
PETTIT LAKE	3,000	<=25	1,100	R-9	June-Sept.	none
REDFISH LAKE	10,000	<=25	6,900	R-9	June-Sept.	none
<u>CLEARWATER RIVER:</u>						
Mouth to South Fork* (LSRCP)	25,000	12	1,250	K-1	October	RV
Mouth to South Fork (NMFS#908)	25,000	12	1,250	K-1	October	LV

TOTALS

Catchables**

Salmon R.	63,300	(Little Salmon R., upper Salmon R., Valley Cr., Yankee Fork and
Clearwater R.	0	Squaw Cr. Ponds, Stanley L., Perkins L., Little Redfish L.)
Stanley Basin Lakes	25,000	(Alturas + Pettit + Redfish)

Subcatchables (includes fingerlings)

"upper" Salmon R. (near Challis)	0	
Lower Salmon R.	50,000	(25,000 each, pursuant to LSRCP Sect. 7 and NMFS #908)
Clearwater R.	50,000	(25,000 each, pursuant to LSRCP Sect. 7 and NMFS #908)

GRAND TOTAL

188,300

*Authorized pursuant to Lower Snake River Compensation Plan Section 7 consultation.

** catchables are 20-25 cm, subcatchables are 15-20 cm, fingerlings are 5-15cm, Total Length

LOCATION INFORMATION BY RIVER KILOMETER:

<u>Salmon R.</u>	<u>River Km</u>	<u>Clearwater River</u>	<u>River Km</u>
Whitebird Cr.	86	Peck	57
Salmon	410	North Fork	65
Yankee Fork R.S.	571	South Fork	120
Yankee Fork	591		
Valley Creek	609		
Redfish Lake Creek	615		

Potential Impacts and Mitigating Actions and Circumstances- The potential mechanisms of impact of resident species hatchery programs on listed steelhead include competition, predation, fish health/disease, and angling impacts as a by-product of fisheries generated by stocking of hatchery fish. Stocking of rainbow trout does not occur in areas managed for wild steelhead production so the potential impact of resident hatchery programs is restricted to natural and hatchery steelhead populations¹. Potential impacts in wild production areas are limited to angling-related impacts, which are mitigated through fishing regulations and limited access to these areas.

We limit potential impacts of the resident stocking program by managing the number, location, time of release, and fish health of fish stocked. Stocking of hatchery rainbow trout in areas where naturally produced, listed steelhead occur, has been reduced since the early 1990s primarily in response to the listing of sockeye salmon in 1991 and chinook salmon in 1992. In addition, poor survival of hatchery rainbow trout, particularly those stocked into streams effectively limits interaction and potential impacts to listed fish.

Upper Salmon River- Stocking occurs in the mainstem Salmon River from Challis upstream to the mouth of Hell Roaring Creek and in the lower section of Valley Creek. Therefore, interaction of hatchery rainbow trout and naturally produced steelhead juveniles occurs almost exclusively as steelhead smolts emigrate in the spring. This interaction is limited for several reasons. Although according to the permit conditions stocking may begin in June, the majority of the stocking occurs from mid-July through mid-August when flows and fishing conditions are favorable. The majority of steelhead smolts have migrated before stocking begins. Also, stocking is spread out over the primary eight week stocking period so that about 5,000-10,000 fish are stocked per week over the more than 83 km from Hell Roaring Creek to the Challis area and the lower four miles of Valley Creek. Fish are not stocked in the natural production areas of Valley Creek.

Lower Salmon and Lower Clearwater rivers- The effects of stocking subcatchable rainbow trout in the lower Salmon and lower Clearwater rivers are mitigated by several factors. Fish are stocked in the mainstem only, so interaction occurs primarily as smolts are emigrating. Overwinter survival of subcatchables is low.

Competition- We have not directly measured the competitive effects of rainbow trout stocking on listed steelhead. Our assessments indicate that the stocking program as now permitted by NMFS will have no more impact on juvenile steelhead than on juvenile sockeye and chinook. Monitoring conducted as a condition of the stocking permit revealed that in general hatchery rainbow trout survive at low rates and for a short

¹ NMFS and IDFG differed in their opinions of which populations should be listed primarily because IDFG distinguishes between wild and natural populations. IDFG defines wild populations as native, naturally-reproducing fish with little or no hatchery influence. Natural fish are naturally-reproducing fish derived primarily from hatchery stocks. IDFG assigns a higher management priority to wild fish populations than to natural fish populations.

duration, especially in stream environments. Hatchery fish are inefficient foragers relative to naturally produced fish (Steward and Bjornn. 1990). Stocking occurs over a small geographic area relative to the Snake River ESU and does not occur in tributary streams or in wild production areas. There are about 4,500 river miles of steelhead spawning and rearing habitat in Idaho, about 3,000 in the Salmon River Basin and 1,500 in the Clearwater River Basin. Stocking occurs in less than 200 miles of these systems in mainstem locations. No stocking occurs in the vast areas of the state managed for wild production. Stocking in "mainstem" environments minimizes impact to juvenile steelhead, because juvenile steelhead rear mainly in tributaries. By the time juvenile steelhead migrate in late summer to mainstem overwintering habitat, few, if any, hatchery catchables remain. We generally do not stock stream locations after Labor Day. Notably, all current stocking complies with NMFS guidelines, including production caps, as developed through the listing process and described in the Biological Opinions.

Predation- A substantial volume of data relative to predation by hatchery rainbow trout (and hatchery steelhead smolts) has been collected as a result of the listing of sockeye and chinook. Analysis of these data indicates that it is not plausible to conclude that predation as a result of the IDFG stocking program poses a threat to the continued survival and recovery of listed steelhead (Memo from V. Moore, IDFG to G. Griffin, NMFS, February 17, 2000). The following summary is excerpted from the memo cited.

"The data relative to these items, provided to NMFS in several documents including a memorandum to R. Westerhof (January 22, 1999) and most recently in our 1999 annual report, is summarized below. As a result of the conditions of this permit, the stomach contents of 1,200 hatchery rainbow trout, 223 residual hatchery steelhead, 3 wild rainbow trout, one brook trout and one wild cutthroat trout have been examined. A total of twenty fish, including only one chinook fry and two sockeye fry (see below) have been recovered as prey items. The chinook fry was recovered from the stomach contents of 252 hatchery rainbow trout and 135 residual steelhead sampled in the lower Salmon and lower Clearwater rivers from 1993 through 1999 (see Table 1, enclosed). Notably, the chinook fry was recovered from the stomach of a hatchery rainbow trout that was captured in a chinook smolt trap. We suspect the predation occurred in the confines of the trap. One unidentified fish was also recovered from the stomach contents of these 387 *O. mykiss*."

Fish Health/Disease Concerns- We continue in our efforts to reduce the potential impacts of the stocking program to native fish relative to the disease transmission issue. The Department participated in the development of, and adheres to, fish health guidelines set forth by the Pacific Northwest Fish Health Protection Committee (PNFHPC) and the Integrated Hatchery Operations Team (IHOT). Our Fish Health branch maintains a rigorous schedule of routine sampling of both anadromous and resident fish production.

We have responded aggressively to the threat of whirling disease. Although the parasite that causes whirling disease (*Myxobolus cerebralis*) is present in portions of the Salmon River, negative impacts to anadromous species have not been documented at the population level. Nonetheless, because this potential exists, several recent significant actions have been taken to reduce the threat of whirling disease in Idaho in both the

anadromous and resident programs. Major facility and operational changes have occurred at Hayspur Fish Hatchery, a resident hatchery where the causative agent was found in catchable rainbow trout. In 1995 we sacrificed all of the existing broodstock and the majority of catchable rainbow trout "on-station" at the time. We invested about \$1.2 million to improve the hatchery water supply and rearing facilities so brood fish and eggs can be reared on disease-free water. Eggs are disinfected prior to being shipped to other hatcheries for rearing. We no longer stock resident rainbow trout reared at Hayspur into anadromous waters.

We have also expended a considerable effort to educate and inform the general public, especially anglers, and the scientific community about whirling disease. Our biologists and Information and Education (I & E) staff produced several thousand whirling disease information pamphlets for distribution primarily to Idaho anglers.

On the anadromous front, our fish health branch has instituted and conducted aggressive programs in the anadromous hatchery program to reduce whirling disease and Bacterial Kidney Disease (BKD). These programs, which are ongoing, have been largely successful.

Our biologists remain active in the scientific community, including attendance and presentations at appropriate professional meetings, and particularly in both the sockeye and chinook captive breeding/rearing technical oversight committees.

RESIDENT FISHERIES - IMPACTS AND MITIGATING CIRCUMSTANCES

The obvious potential impact of resident fisheries is the intentional and unintentional mortality of listed steelhead due to angling. Potential impacts of these fisheries are mitigated, particularly at the ESU level, by three primary factors, 1) restrictive regulations that limit catch, harvest and incidental mortality (catch and release mortality), 2) angler preference, and 3) limited accessibility, particularly in prime wild production areas.

Fishing Regulations- All streams managed for wild steelhead are subject to restrictive fishing regulations that protect a complex of species including juvenile steelhead (Table 2). In 1998, special regulations were applied to the South Fork Salmon River and its tributaries, a wild production drainage. The rule change enacted Catch-and-Release regulations throughout the entire drainage.

Resident fisheries in wild steelhead management areas are governed by three types of Special Regulations, *Catch-and-Release Regulations*, *Wild Trout Regulations* and "other" *Restrictive Special Regulations*. *Catch-and-Release* regulations specify that only artificial flies and lures with a single barbless hook may be used and no harvest of game fish other than whitefish (*Prosopium williamsoni*) and brook trout (*Salvelinus fontinalis*) is allowed. *Wild Trout Regulations* specify a two-fish bag limit with no size restrictions and no (terminal) gear or bait limitations. Restrictive Special Regulations vary slightly depending on objectives, but all specify a reduced bag limit and may restrict the size of fish that can be retained and gear type. Catch-and-release regulations have been in place for at least 20 years in many key wild steelhead areas such as the Middle Fork Salmon River (1972), Selway (1978), and upper Lochsa (1978) rivers. (Catch-and-

release regulations do not apply to all species but they do apply to rainbow/steelhead and cutthroat.)

Restrictive rules also apply to some other drainages that support natural steelhead production in hatchery-influenced areas. An example is the 1996 rule implemented for the Salmon River from the North Fork upstream, including the Lemhi and Pahsimeroi rivers. In these areas only hatchery-produced rainbow/steelhead, identifiable by a missing adipose fin, and naturally-produced rainbow (adipose fin present) 14 inches or longer may be harvested. This rule effectively protects naturally produced juvenile steelhead in the entire upper Salmon River mainstem from (legal) harvest, while allowing harvest of the larger resident rainbow trout; *O. mykiss* longer than about 8 inches are not likely steelhead, and if they are, they are probably residualized steelhead.

In addition to drainage-wide restrictions, managers have made an effort to protect individual tributaries that are believed to sustain natural production of steelhead. An example is the South Fork of the Clearwater River drainage, which is managed primarily for production of hatchery-influenced steelhead. However, restrictive regulations have been enacted in certain tributaries (Johns and Tenmile creeks, and Crooked River) to further protect naturally reproducing steelhead populations. Populations in Johns and Tenmile creeks may be wild.

Table 2. Regulations governing juvenile steelhead harvest in drainages managed for natural production of native steelhead (wild areas). Some drainages have catch-and-release and wild trout regulations in different portions of the same drainage.

<u>Drainage</u>	<u>Catch-and-Release^a</u>	<u>Quality Trout^b</u>	<u>Wild Trout^c</u>	<u>General^d</u>
Selway R. mainstem above falls	✓			
Selway R. Mainstem below falls		✓		
Selway R. tributaries			✓	
Lochsa R. mainstem above Wilderness Gateway bridge	✓			
Lochsa R. mainstem below Wilderness Gateway bridge		✓		
Lochsa R. tributaries			✓	
Rapid R. & tribs., Little Salmon R.			✓	
Salmon R. Canyon tributaries			✓ ^e	
South Fk. Salmon R. mainstem to headwaters, & tribs.	✓			
Middle Fk. Salmon R. mainstem to headwaters, & tribs.	✓ ^f			

^a Catch-and-release regulations require barbless hooks, no bait, and immediate release of all gamefish except whitefish.

^b Quality trout regulations have a bag limit of two trout, none less than 14 inches, barbless hooks, no bait.

^c Wild trout regulations have a bag limit of two trout.

^d General regulations have a bag limit of six trout.

^e Crooked Creek from Big Creek upstream is general regulation.

^f Tributaries to Camas and Loon creeks are wild trout regulation.

Qualitative assessment of fisheries indicated more restrictive regulations were unwarranted because of current protective regulations already in place in most tributaries and low angler effort in unprotected streams. Notably, further restrictive regulations were instituted despite these findings. In these assessments, conducted prior to finalizing the 1996-97 fishing rules, IDFG summarized available data on angler effort and juvenile steelhead densities in Idaho anadromous streams. It was assumed that high angler effort in areas of low steelhead density would represent areas of risk due to fishery impacts. Some of those data are presented below only to demonstrate the low level of impact resulting from these fisheries because the institution of more restrictive regulations renders the data somewhat moot.

As expected, trout fishing in certain highly accessible tributaries (e.g., South Fork Clearwater River tributaries, Little Salmon River, South Fork Salmon River, upper Salmon River) may result in a larger proportion of juvenile steelhead caught than in more remote locations, but naturally produced juvenile steelhead in these tributaries are protected by restrictive regulations.

Research conducted on the entire East Fork South Salmon River and lower Johnson Creek in 1994 provided some insight into the potential impacts of sport fishing on rainbow/steelhead under a six-fish-limit in fairly accessible areas. At that time only cutthroat trout and bull trout in the South Fork Salmon River drainage were protected by no-harvest regulations. IDFG biologists estimated that under those conditions, sport anglers effected an exploitation rate of 11% (95% CI, 5-19%) on the juvenile (150-265mm) rainbow/steelhead population in those reaches (Janssen et al. 1994). An estimated 2,023 (± 894 95% CI) rainbow/steelhead were harvested out of a population of 18,714 ($\pm 3,413$ 95% CI). We believe this exploitation rate is above average for Idaho steelhead populations mainly because of the accessibility and six fish limit that existed at the time. In October 1997, the Idaho Fish and Game Commission adopted the proposed Catch-and-Release designation for the entire South Fork Salmon River drainage thereby extending the no-harvest protection to other native fish species, primarily juvenile steelhead in the drainage.

We used a fairly crude, but reasonable approach to estimate that anglers catch and release about 6,000 juvenile steelhead (defined as 50% of rainbow/steelhead less than 220 mm) from the Middle Fork Salmon River annually. About 2,000 anglers float the Middle Fork each year. Assuming each angler fishes for an average of 18 hours per trip, a catch rate of 1.3 fish per hour, 30% of the catch is rainbow/steelhead-80% of which are less than 220mm, and 50% of these are steelhead we arrive at an estimate of about 5600 steelhead juveniles caught and released.

$2,000 \text{ anglers} \times 18 \text{ hrs/angler} \times 1.3 \text{ fish/hr} \times 30\% \text{ rainbow} \times 80\% \text{ less than 220mm} \times 50\% \text{ less than 220mm are steelhead} = 5,616 \text{ juvenile steelhead caught and released.}$

We estimate an additional catch of about 400 steelhead, based on an estimate that 10% of the anglers fish the tributaries.

The impacts of catch-and-release fisheries are unlikely to jeopardize steelhead at the population or ESU level. In a review of the existing literature, Schill and Scarpella

(1995) found hooking and handling mortality of trout to generally be less than 10%, even where bait was used. However, Schill (1996) estimated mortality of bait-caught wild trout, whether large (≥ 200 mm TL) or small (< 200 mm) to be 16%. Schill (1996) argues that hooking mortality at this rate or higher (25%) has negligible effects at the population level.

The response of Westslope cutthroat populations in Idaho (and in other states) to Catch-and-Release regulations demonstrates that implementation of these regulations have been effective. Research conducted in the late 1960s and early 1970s on the northern Idaho waters of Kelly Creek (tributary to the North Fork Clearwater River), Lochsa, and St. Joe rivers documented significant benefit to wild cutthroat trout populations as a result of catch-and-release or restrictive bag and size limit regulations (IDFG 2001 *In Draft*, Johnson 1977). These studies demonstrate that these cutthroat populations were substantially reduced under general regulations (six fish limits and bait allowed), but that the institution of restrictive regulations allowed cutthroat populations to rebuild to where they now support excellent fisheries. Cutthroat populations in healthy habitat remain healthy and productive under Catch-and-Release regulations despite substantial fishing pressure in the more accessible areas.

We suspect that the catch-and-release regulations instituted primarily to protect native cutthroat populations have had a positive effect on other native species as well, particularly bull trout and rainbow/steelhead; Rainbow trout (and perhaps residual steelhead) populations in Kelly Creek improved following implementation of catch-and-release regulations. We also speculate that the benefit to steelhead is somewhat less than that for cutthroat because the impacts of the general regulations on steelhead were probably not as severe as they were to cutthroat. Cutthroat was the target species in those fisheries whereas rainbow/steelhead were caught incidentally, and probably not harvested as much as cutthroat. Again, angler preference for fish larger than 8 inches is the primary reason juvenile steelhead are not targeted by sport anglers.

In addition to regulations that protect native fishes by limiting catch and harvest, there are also regulations that potentially protect native species by encouraging harvest of non-native fishes. For example, the "Bonus Brook Trout Limit" allows anglers to harvest 10 brook trout of any size, in addition to existing limits for other fish, in most of Idaho. So, under the wild trout regulation, an angler may retain two native trout and 10 brook trout. In the Clearwater, Snake, and Salmon rivers there are no size limits on bass (*Micropterus sp.*) harvest; five bass of any size may be harvested. This regulation change was instituted by 1994 to encourage the harvest of potential salmonids predators.

An important component of the efficacy of special regulations is to ensure that anglers can accurately identify their catch. The Department has conducted research and launched I&E initiatives to improve the ability of anglers to identify their catch. We have committed to "provide pamphlets, brochures, signs, posters, and cards that will increase anglers' knowledge of the difference between trout species and how to release wild trout with minimal injury" (IDFG 2001 *In Draft*).

Data from angler diaries and creel surveys, although limited, suggests trout anglers typically do not harvest rainbow trout less than 8" long. From information gathered in the Clearwater Region, including the mainstem Clearwater River, the Lochsa River and White Sands Creek, the Selway River and Moose Creek, the mainstem Snake River in Hell's Canyon, and the Little Salmon River, IDFG biologists concluded anglers prefer to release small trout in favor of trying to catch larger fish, especially in areas where wild trout regulations (two-fish limit) are in place (T. Cochnauer, IDFG, personal communication). This preference for larger fish may contribute to the light fishing pressure observed in tributaries.

Information gathered from anglers on the Salmon River in 1994 support this finding. Of 1,143 Salmon River "float boaters" interviewed by IDFG personnel on 25 days between June 17 to September 8, we found that 191 of these had fished for a total of 1441.5 hours to harvest 8 of 193 rainbow/steelhead caught (Janssen et al. 1994). Fifty-two of these were caught in or at the mouths of Salmon River tributaries. Rainbow/steelhead caught ranged from 127 mm to 508 mm, with an average of 196 mm.

Information supplied by outfitters and guides also provides some indication that harvest of juvenile rainbow/steelhead is low. In 1994, one guide on the South Fork Salmon River reported that 14 rainbow/steelhead juveniles (≤ 8 inches) were caught and released by clientele from six guided fishing trips taken between July 19 and September 5 (Janssen et al. 1994). No juvenile/rainbow were harvested. Information from approximately eight other trips was not reported.

It is likely that angling by IDFG researchers for Idaho Supplementation Studies (ISS) is the most intensive effort that targets juvenile steelhead in the state. During the summer 2000, IDFG research crews, on the ISS project, working at several sites, PIT-tagged nearly 7,300 (7,274) steelhead that were captured by fly-fishing. Crews of four to six anglers catch juvenile steelhead for PIT tagging. Fly-fishing is a very effective collection method during the summer months and is a primary method used. Researchers concentrate their angling efforts in small tributaries that support high concentrations of juvenile steelhead. Under the best of conditions (weather, flow, fish densities) and catch rates, an experienced angler (researcher) can catch about 100 juvenile steelhead per day for PIT-tagging (A. Byrne, IDFG, personal communication). The level of impact from this effort does not threaten steelhead populations because fishing occurs on a small segment of any particular population, temporally and spatially, and catch and release mortality is minimal. Mortality on these fly-caught fish is less than 2% and includes catching the fish, removing the hook, holding and transporting fish in buckets to the PIT tag site, anesthetizing and tagging, and releasing back into the stream after recovery.

We estimate all IDFG salmon and steelhead researchers will capture, handle and release 10,000, and capture, handle, PIT tag, and release, 25,000 juvenile steelhead annually as a result of research activities. We expect this level of take to be authorized by NMFS through the ESA Section 4(d) process (IDFG 2000, 4d Research Plan). This is less than the annual take of chinook salmon juveniles now authorized by NMFS.

At the Snake River ESU level, it is likely that only a small proportion of the total juvenile steelhead population is "fished on" and a much smaller proportion is actually caught. Sport fishery impacts are too limited temporally and geographically to constitute a threat at any level. There are over 4,500 river miles of steelhead habitat in the state, much of this in inaccessible or difficult-to-access areas. Juveniles rear in tributaries where fishing pressure is usually light, probably because access is limited and fish are small. Most anglers prefer to fish for cutthroat trout in pools, while rainbow/steelhead juveniles are more likely to be found in runs and pocket water. For angling that does occur in tributaries, anglers could be very successful in terms of catch rates and absolute numbers of fish caught, as demonstrated by researchers, but the low number of anglers, the limited portion of the population fished on, special regulations, and angler preferences for larger fish limit the overall impact. Also, most of the angling occurs during a 4-6 week period of the summer when weather and stream flows are conducive to hiking, camping, and fishing.

In our best judgment, based on creel survey and other data, no populations of steelhead are subjected to intensive fisheries, over a geographic area broad enough, or duration long enough, to limit their productivity.

- 1.1.3) General description of the relationship between the FMEP objectives and Federal tribal trust obligations.** (This is addressed further in section 4.)
NA

1.2) Fishery management area(s).

- 1.2.1) Description of the geographic boundaries of the management area of this FMEP.**

This FMEP applies to all waters in the State of Idaho that are currently accessible to anadromous fish including the Clearwater River drainage with the exception of the North Fork Clearwater River above Dworshak Dam; the entire Salmon River drainage, and the Snake River drainage below Hells Canyon Dam.

- 1.2.2) Description of the time periods in which fisheries occur within the management area.**

The general fishing season opens the Saturday of Memorial Day weekend and closes on November 30. However, all ponds, lakes and reservoirs and some rivers and streams, or portions thereof, remain open year-round. Waters in anadromous areas that are open year-round typically include large mainstem rivers or sections thereof including the Snake River, the mainstem and North Fork Clearwater rivers, and the majority of the main Salmon River. The majority of sport fishing that would affect listed salmon and steelhead occurs during the summer usually from July 4th through August.

1.3) Listed salmon and steelhead affected within the Fishery Management Area specified in section 1.2.

This FMEP deals only with impacts of the resident sport fishing program on threatened Snake River ESU steelhead at the juvenile stage. (Endangered sockeye and threatened Snake River spring/summer and fall chinook take is authorized through the Section 10 process, Permit #1233.)

Distribution and Stock Structure of Idaho Steelhead (mainly from previous RFMEP, 6/22/98).

While the following information adequately describes the stock structure of Idaho's steelhead populations, the reader is reminded that resident (juvenile) and steelhead (adult) fisheries affect stocks and populations differently.

In its comments to the proposed listing, the State of Idaho (1997) articulated that the potential listing of Snake River steelhead should be limited to wild, i.e. native, naturally-produced populations only, and should not include non-native naturally reproducing steelhead. This is the same rationale used to exclude Clearwater River chinook salmon from the listing of Snake River chinook. Steelhead populations occupying a large area of the Salmon and Clearwater river basins meet the "wild" definition and are viewed as a priority component of the ESU by the State.

The State recognizes eight distinct management units of native, naturally spawning (wild) summer steelhead in Idaho (Table 3, see also State of Idaho 1997, IDFG 2001 *In Draft*). For harvest and production management purposes, these groupings of steelhead are separated into two predominant races: A-run (4 management units) and B-run (4 management units). A-run steelhead enter the Columbia River earlier and are generally smaller in size and less imperiled than the B-run steelhead. B-run steelhead, unique to the Snake River, are imperiled. These world-renowned fish range to over twenty pounds and inhabit about 2,600 river miles in Idaho. But in the five (return) years from 1995-2000 estimated returns of B-run steelhead at Lower Granite Dam ranged from 230 to 2,000 and averaged about 1,020.

The Idaho Department of Fish and Game has a long history of protecting the genetic integrity of wild steelhead populations native to several large watersheds within the Snake River Basin. Watersheds in Idaho containing native steelhead comprise much of the range of Snake River steelhead. Snake River summer steelhead spawning and rearing habitat in the state consists of large portions, about 4,500 river miles, of the Salmon ($\approx 3,000$) and Clearwater ($\approx 1,500$) basins, as well as the Snake River between Hells Canyon and Lower Granite pool. These watersheds include the Middle Fork of the Salmon River, South Fork of the Salmon River, Selway River, Lochsa River, Rapid River, Chamberlain Creek, Bargamin Creek, and other Salmon River Canyon tributaries, which, because of management practices, support local populations that retain the unique characteristics of these locally-adapted stocks. These stocks have been subjected to little or no stocking of hatchery fish and have been protected from fishery impacts. These populations comprise an important part of the evolutionary legacy of the steelhead species, and therefore represent key components for rebuilding.

Table 3. Management units of steelhead in Idaho identified and managed as wild (native, naturally produced).

SALMON RIVER

Salmon River tributaries from the mouth to the Middle Fork Salmon River, excluding the Little Salmon River, A-run
 Rapid River, (Little Salmon River tributary), A-run
 South Fork Salmon River Drainage, B-run
 Middle Fork Salmon River Drainage, B-run

CLEARWATER RIVER

Lower Clearwater River tributaries, excluding Lolo Creek, A-run
 Lochsa River Drainage, B-run
 Selway River Drainage, B-run

SNAKE RIVER (mouth to Hells Canyon Dam)

Small Idaho tributaries (excludes Salmon and Clearwater rivers) from the mouth upstream to Hells Canyon Dam, A-run

There are three areas within the historic range of Snake River steelhead in Idaho where hatchery influences from non-native stocks predominate and local steelhead populations probably do not retain the viability or genetic representation of native stocks. These include the upper Salmon River above the Middle Fork, Little Salmon River excluding Rapid River, and South Fork Clearwater River (Table 4). These areas became hatchery-influenced areas primarily as a result of the severe decline of native stocks in the late 1970s. Extensive outplanting of hatchery fry and smolts occurred in areas where this decline occurred or where there was uncertainty as to historical use by steelhead. Non-native hatchery fish were stocked in an attempt to restore natural production and provide harvest opportunities.

Table 4. Steelhead production areas currently managed for hatchery-influenced populations.

SALMON RIVER

Salmon River, mouth of Middle Fork upstream to headwaters, including unspecified tributaries, A-run
 Lemhi River, A-run
 Pahsimeroi River, A-run
 Yankee Fork, A-run
 East Fork Salmon River, B-run
 Little Salmon River, excluding Rapid River, A-run

CLEARWATER RIVER

South Fork Clearwater River, B-run
 Lolo Creek, B-run
 Clear Creek, B-run

Hatchery broodstocks in Idaho were derived primarily from stocks totally blocked from continued natural production in their native habitat (e.g., B-run steelhead from North Fork Clearwater River above Dworshak Dam; A-run steelhead from the Snake River above Hells Canyon Dam) (Kiefer et al. 1992). Although NMFS included Dworshak National Fish Hatchery (DNFH) and Oxbow Fish Hatchery stocks as part of the Snake River ESU, they were not listed because they were not deemed critical to recovery. Over time hatchery broodstocks in Idaho have demonstrated limited ability to spawn successfully in natural habitats or produce natural offspring that contribute to sustained adult escapement (Kiefer and Lockhart 1994). Likely, this reduced ability to spawn successfully in the wild, relative to wild steelhead, is a result of domestication.

We are uncertain whether several small tributaries in the lower Clearwater River still retain remnant populations of native A-run steelhead. Severe habitat degradation has significantly reduced the production potential of these tributaries. The remaining natural production may be influenced by over two decades of B-run steelhead smolt releases from Dworshak NFH. However, recent genetic analyses indicate that populations sampled from lower Clearwater tributaries did not show a close affinity to the Dworshak stock (Waples 1995), even though Dworshak fish likely stray into these tributaries. The genetic analyses were hampered, however, because most samples appeared to be derived from relatively few parents, not unexpected given recent escapements of naturally produced adults. Similarly, recent genetic samples from John's Creek, a South Fork Clearwater River tributary, do not show any particular genetic affinity to Dworshak NFH fish, and were most similar to samples from Gedney and Moose creeks, tributaries to the Selway River (Waples 1998).

There is uncertainty about production status of lower Salmon River tributaries. For IDFG's General Parr (density) Monitoring program (GPM), tributaries in this area are designated as a wild A-run production because hatchery influence is limited to the mainstem river. Hatchery adults were found in 2 of 7 tributaries (Skookumchuck and Slate creeks) during a 1994 inventory, but it is unknown if hatchery fish consistently spawn in these tributaries or others. There is no direct (intentional) hatchery influence in these streams, although a small number of smolts are released annually at two sites near Hammer Creek, several miles downstream of Skookumchuck and Slate creeks.

1.3.1) Description of “critical” and “viable” thresholds for each population (or management unit) consistent with the concepts in the technical document “Viable Salmonid Populations and the Recovery of Evolutionarily Significant Units.”

Critical and viable thresholds have not been identified yet for Snake River steelhead at the management or population level. Pre-dam estimates of wild steelhead production and estimates of current production capabilities, assuming adults were available to "seed" the existing habitat, do not reflect estimates of critical or viable populations, but do provide an idea of what we consider healthy, self-sustaining, fishable

steelhead populations. Critical and viable population estimates would be considerably less than these.

IDFG estimates that Idaho's habitat could produce 3.1 million steelhead smolts at 70% of capacity (IDFG 2001 *In Draft*, IDFG 1992, Anadromous Fish Management Plan, 1992-1996). If enough adult steelhead were available to "seed" the currently available spawning and rearing habitat at 70% of capacity, 3.1 million smolts could be produced. This estimate is based in part on the estimate that about 62% of Idaho's historic salmon and steelhead spawning and rearing habitat remains available; the loss of the North Fork Clearwater River and the Snake River above Hells Canyon represent the major habitat losses in Idaho. As a rough benchmark, wild steelhead returns, counted at Ice Harbor Dam, ranged from 45,000 to 108,000 and averaged 71,000, from 1962 to 1968, the period following the construction of Ice Harbor Dam, but before construction of Lower Monumental Dam. Bjornn (1960) estimated about 40,000 adult steelhead entered the Clearwater River in the "fish year" from July 1958 to June 1959. And, "On the basis of catch estimates, it appears that the run of steelhead into the Salmon River may be as large as the Clearwater run, if not larger". In the ten years from 1991 through 2000, wild steelhead counts at Lower Granite Dam have ranged from about 7,400 to 19,400 and have averaged about 10,800.

Estimates of production capabilities and adult escapement needs for most of Idaho's wild and natural "populations" have been calculated (Appendix 1, Table 1).

1.3.2) Description of the current status of each population (or management unit) relative to its "Viable Salmonid Population thresholds" described above. Include abundance and/or escapement estimates for as many years as possible.

All stocks of anadromous fish in the Snake River Basin are at high risk of extinction. NMFS provided estimates of the risk of absolute extinction within 24 and 100 years for A and B run steelhead under a wide range of assumptions relative to potential impacts of hatchery fish. NMFS estimates range from 0.12 to 1.00 depending on runs (A or B) and assumptions about the effectiveness of hatchery fish to spawn in the wild. It remains unclear how changing the assumptions about hatchery effectiveness has any influence on extinction risks of wild stocks unaffected by hatchery fish, for example in the Middle Fork and South Fork Salmon rivers.

Escapement data for wild, natural and hatchery-produced steelhead in Idaho are provided in Appendix 1. We anticipate development of thresholds as part of the recovery planning process. Despite low escapements, juvenile monitoring demonstrates that steelhead persist in wild production areas.

Table 1. List of the natural fish populations, “Viable Salmonid Population” thresholds, and associated hatchery stocks included in this FMEP.

Natural Populations (or Management Units)	Critical Thresholds	Viable Thresholds	Associated hatchery stock(s)	Hatchery stock essential for recovery? (Y or N)
<i>Example:</i> Hypothetical R. Basin spring chinook	<i>Example:</i> Abundance: 500 adults/yr Productivity: short term avg. replacement rate <0.7	<i>Example:</i> Abundance: 5,000 adults/yr Productivity: long term avg. replacement rate =1	<i>Example:</i> Twin Forks Hatchery spring chinook (stock #1), Salmon Hatchery spring chinook (stock #56)	N

This table will be completed when the information has been fully developed.

1.4) Harvest Regime

1.4.1) Provide escapement objectives and/or maximum exploitation rates for each population (or management unit) based on its status.

Not applicable to juvenile steelhead, the only steelhead likely to be affected by these fisheries.

1.4.2) Description of how the fisheries will be managed to conserve the weakest population or management unit.

A description of the fisheries management program was provided in Section 1.1.2.

1.4.3) Demonstrate that the harvest regime is consistent with the conservation and recovery of commingled natural-origin populations in areas where artificially propagated fish predominate.

See Section 1.1.2

1.5) Annual Implementation of the Fisheries

The general resident fishing season is from the Saturday of Memorial Day weekend to November 30. Some rivers or river sections (as well as ponds, lakes and reservoirs) remain open the entire year. However, as discussed in Section 1.1.2, all streams managed for wild steelhead are subject to some type of restrictive regulation. Monitoring and evaluation of the fisheries occurs in accordance with management needs. The fishing rules are set biennially, while the management plans are on a five-year cycle.

The Idaho Fish and Game Commission establishes steelhead seasons, fishing areas, and take limits based on an analysis of the number of steelhead returning to the state and spawning escapement needs of both hatchery and natural production areas. Although steelhead rules are approved by the Commission on a biennial basis, the Commission has the authority to modify steelhead rules in-season to accommodate updated biological information. Steelhead fisheries implementation is more thoroughly covered in the FMEP dealing expressly with those fisheries.

SECTION 2. EFFECTS ON ESA-LISTED SALMONIDS

2.1) Description of the biologically-based rationale demonstrating that the fisheries management strategies will not appreciably reduce the likelihood of survival and recovery of the affected ESU(s) in the wild.

2.1.1) Description of which fisheries affect each population (or management unit).
See section 1.1.2

2.1.2) Assessment of how the harvest regime will not likely result in changes to the biological characteristics of the affected ESUs.

Impacts of the resident sport fisheries are not extensive or intensive enough to impact steelhead at the population or ESU level (see previous discussion).

2.1.3) Comparison of harvest impacts in previous years and the harvest impacts anticipated to occur under the harvest regime in this FMEP.

There has been a continuous trend, mainly through stocking and regulation changes, to reduce angling-related impacts to juvenile steelhead and other native species. Harvest opportunities for juvenile rainbow trout were limited in previous times and are minimal now, with limited potential for further reduction. These reductions have occurred despite the lack of evidence that angling impacts contributed to the decline of wild and natural steelhead populations or now limit their recovery. Legal harvest of juvenile steelhead trout is essentially non-existent in the resident fisheries as now implemented. In areas where 2-fish limit regulations are in place, anglers target larger resident trout for harvest.

2.1.4) Description of additional fishery impacts not addressed within this FMEP for the listed ESUs specified in section 1.3. Account for harvest impacts in previous year and the impacts expected in the future.

NA

SECTION 3. MONITORING AND EVALUATION

3.1) Description of the specific monitoring of the “Performance Indicators” listed in section 1.1.3.

Creel surveys are conducted, as appropriate, to meet management objectives. No creel surveys or other monitoring efforts are planned specific to impacts to listed juvenile steelhead because there is no biological basis for these activities. We have already made appropriate regulation changes based on historic and current evaluations relative to the potential impacts to steelhead populations. Fishing regulations have reduced potential impacts to steelhead whether specifically designed to address steelhead or for other species.

3.2) Description of other monitoring and evaluation not included in the Performance Indicators (section 3.1), which provides additional information useful for fisheries management.

Collection, handling, and tagging of juvenile steelhead (and sockeye and chinook) have provided estimates of mortality rates associated with these activities and valuable guidelines for conducting these activities safely. These activities lend support to the conclusion that catch-and-release fishing has little impact on juvenile steelhead populations.

3.3) Public Outreach

The Department takes a very proactive approach to keeping the public informed. Fishing regulations are made available in "hard copy" through license vendors and Department offices and "online" at the IDFG website. Proposed regulation changes are

well publicized through the various media outlets including newspapers, radio, television and the internet, usually through coordination with the Information and Education Bureau (I & E). Proposed regulation changes are subject to comment by the general public through public meetings, traditional informal channels (phone, walk-ins), and through the internet. Public meetings are well publicized and held throughout the state to provide the public with access to the process. News packets are regularly sent to media outlets for public dissemination.

In addition to publishing the regulations, technically entitled Fishing Seasons and Rules, the Department also publishes "Angler Guides" and brochures on a variety of subjects. Most recently the Department produced a brochure entitled "Whirling Disease and Idaho Trout: Answers for Idaho Anglers". Among other information, the brochure provides anglers with information on how to prevent the spread of the parasite.

Information and Education programs have created increased awareness among anglers relative to ESA-listed species, proper handling and release of fish, and fish identification.

3.4) Enforcement

Enforcement activities are conducted according to priorities. Enforcement personnel conduct routine patrols and respond to unforeseen incidents as required. In addition to Conservation Officers, biologists also contribute to enforcement activities, particularly by maintaining IDFG presence in the field. This is especially true during the heart of the resident sport fishing season when field crews are working throughout the state.

3.5) Schedule and process for reviewing and modifying fisheries management.

3.5.1) Description of the process and schedule that will be used on a regular basis (e.g. annually) to evaluate the fisheries, and revise management assumptions and targets if necessary.

Creel surveys and angler contacts provide the basis for monitoring sport fishery impacts to juvenile steelhead. For the reasons previously provided, namely low angling pressure over a vast geographic area, we do not anticipate further management changes will be necessary to protect juvenile steelhead. Field activities now conducted are sufficient to indicate if angling impacts warrant management changes.

3.5.2) Description of the process and schedule that will occur every X years to evaluate whether the FMEP is accomplishing the stated objectives. The conditions under which revisions to the FMEP will be made and how the revisions will likely be accomplished should be included.

Snake River ESU steelhead status will not change as a result of the resident sport fishing program in Idaho.

**SECTION 4. CONSISTENCY OF FMEP WITH PLANS AND CONDITIONS SET
WITHIN ANY FEDERAL COURT PROCEEDINGS**

Idaho Indian Tribes are not a party to this FMEP. We are unaware of existing court orders allocating either juvenile steelhead or resident fish.

Appendix A.

Appendix A, Table 1. Proposed adult steelhead escapement necessary to achieve production at 70% of estimated carrying capacity, including natural production areas above weirs. (Reproduced from IDFG Anadromous Fish Management Plan, 1992-1996.)

Appendix A, Table 2. Counts of adult naturally-produced anadromous fish at lower Snake River dams. Completion dates of dams from downstream to upstream are as follows: Ice Harbor-1961, Lower Monumental-1969, Little Goose-1970, Lower Granite-1975. Numbers reflect counts made at the upper-most dam in place at the time of the count: Ice Harbor-1964-1968, Lower Monumental-1969, Little Goose-1970-1974, Lower Granite-1975-present.

Appendix A, Table 3 Returns of adult steelhead to Idaho hatchery facilities. (XL file, 1-Histhnr.xls)

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Appendix A, Table 1. Proposed adult steelhead escapement necessary to achieve production at 70% of estimated carrying capacity, including natural production areas above weirs.

Stock	Drainage	Capacity ^A	70% parr	70% smolt	Egg distribution at 1.5% egg- smolt Survival	Spawners		Lower Granite Dam Escapement	Smolt to adult survival needed
						Females	Total		
B-run	Wild								
	Selway	1,453,514	1,017,460	508,730	33,915,327	5,015	7,508	7,700	1.51%
	MFSR	2,130,126	1,491,088	745,544	49,702,940	7,594	9,773	10,023	1.34%
	SFSR	889,040	622,328	311,164	20,744,267	3204	5,071	5,201	1.67%
B-run	Natural								
	SF Clwtr	441,960	309,372	154,686	10,312,400	1,525	2,283	2,341	1.51%
	Lochsa	965,310	675,717	337,859	22,523,900	3,330	4,986	5,114	1.51%
	Main/NF Clwtr	214,106	149,874	74,937	4,995,807	739	1,106	1,134	1.51%
	Middle F Clwtr	121,232	84,862	42,431	2,828,747	418	626	642	1.51%
	EF Salmon (above weir)	84,804	59,363	29,681	1,978,760	346	547	561	1.89%
Total B-run		6,300,092	4,410,064	2,205,032	147,002,148	22,171	31,900	32,716	1.48%
A-run, Wild									
	Snake tribs.	32,452	22,716	11,358	757,213	147	257	263	2.31%
	Clearwater tribs. ^B (includes lower, Middle, SF)	264,942	185,459	92,730	6,181,980	1,197	2,097	2,150	2.32%
	Whitebird Cr.	35,430	24,801	12,401	826,700	160	280	288	2.32%
	Salmon Canyon tribs	356,206	249,344	124,672	8,311,473	1,616	2,838	2,911	2.33%
	Rapid River (above weir)	45,068	31,548	15,774	1,051,587	204	357	366	2.32%
A-run, Natural									
	Captain John Cr	7,064	4,945	2,472	164,827	32	56	57	2.31%
	Lower Salmon	154,464	108,125	54,062	3,604,160	698	1,223	1,255	2.32%
	Little Salmon (exclude above weir)	192,440	134,708	67,354	4,490,267	870	1,524	1,563	2.32%
	Lemhi	196,266	137,386	38,693	4,579,540	887	1,554	1,594	2.32%
	Pahsimeroi	59,854	41,898	20,949	1,396,593	271	474	486	2.32%
	Yankee Fork	117,322	82,125	41,063	2,737,513	530	929	953	2.32%
	Upper Salmon (MFSR upstream to Sawtooth and EF weirs)	1,017,872	712,510	356,255	23,750,347	4,602	8,061	8,268	2.32%
	Headwaters	246,918	172,843	86,421	5,761,420	1,116	1,955	2,006	2.32%
Total A-run		2,726,338	1,883,608	941,804	63,613,620	12,330	21,605	22,160	2.35%
Total Idaho Steelhead		9,026,430	6,293,672	3,146,836	210,615,768	34,501	53,505	54,846	1.74%

^ASubbasin smolt capacity x 2.

^BIncludes Lower Clearwater tributaries and Maggie, Cottonwood, Three Mile, and Butcher creeks.

Appendix A Table 2. Counts of adult naturally-produced anadromous fish at lower Snake River dams. Completion dates of dams from downstream to upstream are as follows: Ice Harbor-1961, Lower Monumental-1969, Little Goose-1970, Lower Granite-1975. Numbers reflect counts made at the upper-most dam in place at the time of the count: Ice Harbor-1964-1968, Lower Monumental-1969, Little Goose-1970-1974, Lower Granite-1975-present.

Year	Summer Steelhead	Spring/Sum Chinook	Fall Chinook	Sockeye	Coho	Pacific Lamprey
1960						
1961	Ice Harbor Dam completed					
1962	108,186	58,566	24,595	38	1,566	36,500
1963	76,788	43,514	11,068	1,118	930	49,500
1964	58,028	44,700	9,100	1,276	1,027	17,000
1965	62,566	21,900	8,200	317	157	9,900
1966	64,987	54,500	12,800	278	431	15,000
1967	45,012	57,700	14,000	717	2,000	4,300
1968	82,228	57,500	19,500	1,165	3,800	5,000
1969	Lower Monumental Dam completed					
1969	57,693	63,700	6,200	1,127	4,000	4,500
1970	Little Goose Dam completed					
1970	31,847	46,300	4,500	163	1,200	
1971	48,397	39,000	4,700	891	1,700	
1972	47,282	41,700	1,800	408	520	
1973	27,824	42,300	2,400	192	770	
1974	10,814	18,700	900	124	280	
1975	Lower Granite Dam completed					
1975	14,100	17,800	1,000	209	440	
1976	13,700	14,500	470	531	440	
1977	13,900	30,800	600	458	50	
1978	15,000	42,600	640	123	25	133
1979	19,700	5,285	500	25	50	
1980	19,700	6,166	450	96	30	
1981	23,300	11,267	340	218	1	
1982	25,100	10,646	720	211	31	
1983	24,500	9,414	428	122	25	
1984	24,500	7,399	324	47	0	
1985	26,708	8,441	438	35	2	
1986	21,991	10,829	449	15	1	
1987	25,470	10,297	253	29		
1988	21,085	10,844	368	23		
1989	24,968	5,379	295	2		
1990	9,286	6,594	78	0		
1991	17,321	5,020	318	8		
1992	19,346	12,433	549	1		
1993	7,354	9,967	742	12		
1994	7,516	1,721	406	2		
1995	7,991	1,116	350	4		680
1996	7,623	3,283	639	0		1,154
1997	8,466	7,892	797	2		1,454
1998	9,653	8,426	306	2		763
1999	10,856	3,276	905	0		
2000	18,232	8,895	567	10		

Table x. Steelhead trapping records for Idaho hatchery facilities.											
Steelhead trapping records for Idaho Lower Snake River Compensation Plan (LSRCP) hatcheries											
SAWTOOTH TRAP						EAST FORK TRAP					
Year	Total Trapped					Total Trapped					
	Total	Hatchery		Natural		Total	Hatchery		Natural		
		No.	%	No.	%		No.	%	No.	%	
1985	526	485	92.2	41	7.8	77	71	92.2	6	7.8	
1986	2212	2182	98.6	30	1.4	720	ND	ND	ND	ND	
1987	2187	2114	96.7	73	3.3	224	210	93.8	14	6.3	
1988	990	861	87.0	129	13.0	210	190	90.5	20	9.5	
1989	994	919	92.5	75	7.5	379	362	95.5	17	4.5	
1990	1056	975	92.3	81	7.7	454	429	94.5	25	5.5	
1991	261	249	95.4	12	4.6	136	115	84.6	21	15.4	
1992	1705	1661	97.4	44	2.6	156	111	71.2	45	28.8	
1993	1591	1584	99.6	7	0.4	176	159	90.3	17	9.7	
1994	338	332	98.2	6	1.8	73	65	89.0	8	11.0	
1995	532	528	99.2	4	0.8	38	36	94.7	2	5.3	
1996	553	545	98.6	8	1.4	54	48	88.9	6	11.1	
1997	1243	1229	98.9	14	1.1	149	137	91.9	12	8.1	
1998	768	762	99.2	6	0.8	27	13	48.1	14	51.9	
1999	933	923	98.9	10	1.1	56	46	82.1	10	17.9	
2000	2061	2049	99.4	12	0.6	48	42	87.5	6	12.5	
Total	17950	17398	96.9	552	3.1	2977	1963	86.97	217	9.6	
CROOKED RIVER TRAP						POWELL (LOCHSA RIVER) TRAP					
	Total Trapped	Hatchery		Natural		Total Trapped	Hatchery		Natural		
		No.	%	No.	%		No.	%	No.	%	
1988						0					
1989						0					
1990	na					51	1	2.0	50	98.0	
1991	49	44	89.8	5	10.2	0					
1992	53	34	64.2	19	35.8	32	0	0.0	32	100.0	
1993	49	32	65.3	17	34.7	0					
1994	6	1	16.7	5	83.3	0					
1995	17	2	11.8	15	88.2	1	0	0.0	1	100.0	
1996	3	1	33.3	2	66.7	0					
1997	5	0	0.0	5	100.0	2	0	0.0	2	100.0	
1998	2	0	0.0	2	100.0		did not trap				
1999	10	7	70.0	3	30.0		did not trap				
2000											
Total	194	121	62.4	73	37.6	86	1	1.2	85	98.8	

Table x. continued Steelhead trapping records for Idaho hatchery facilities.																				
Steelhead trapping records for Idaho Power Company hatchery facilities.																				
HELL'S CANYON TRAP						PAHSIMEROI TRAP														
	Total						Total													
	Trapped	Hatchery		Natural			Trapped	Hatchery		Natural										
		No.	%	No.	%			No.	%	No.	%									
1985							4944	4903	99.2	41	0.8									
1986							4505	4435	98.4	70	1.6									
1987	3209	3162	98.5	47	1.5		5033	4774	94.9	259	5.1									
1988	3827	3719	97.2	108	2.8		1981	1521	76.8	460	23.2									
1989	2729	2708	99.2	21	0.8		1926	1760	91.4	166	8.6									
1990	2728	2725	99.9	3	0.1		2092	1974	94.4	118	5.6									
1991	1151	1123	97.6	28	2.4		719	693	96.4	26	3.6									
1992	1714	1700	99.2	14	0.8		1727	1688	97.7	39	2.3									
1993	1259	1251	99.4	8	0.6		2275	2251	98.9	24	1.1									
1994	1403	1387	98.9	16	1.1		849	814	95.9	35	4.1									
1995	1597	1555	97.4	42	2.6		1418	1401	98.8	17	1.2									
1996	1385	1383	99.9	2	0.1		2940	2923	99.4	17	0.6									
1997	1270	1270	100.0	0	0.0		2264	2239	98.9	25	1.1									
1998	2407	2406	100.0	1	0.0		2142	2094	97.8	48	2.2	all naturals released								
1999	2042	2042	100.0	0	0.0		1729	1691	97.8	38	2.2	all naturals + 6 H males released								
2000																				
Total	26721	26431	98.9	290	1.1		36544	25823	70.7	1383	3.8									
RAPID RIVER TRAP																				
	Total																			
	Trapped	Hatchery		Natural																
		No.	%	No.	%															
1987	74	6	8.1	68	91.9															
1988	90	5	5.6	85	94.4															
1989	81	13	16.0	68	84.0															
1990	135	18	13.3	117	86.7															
1991	47	1	2.1	46	97.9															
1992	111	29	26.1	82	73.9															
1993	202	40	19.8	162	80.2															
1994	43	10	23.3	33	76.7															
1995	105	58	55.2	47	44.8															
1996	86	41	47.7	45	52.3															
1997	82	26	31.7	56	68.3															
1998	59	36	61.0	23	39.0															
1999	39	29	74.4	10	25.6															
2000																				
Total	1154	312	27.0	842	73.0															

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